

Grade 6 - Greatest Common Factor and Least Common Multiple - Test Answer Key

Common Core 6.NS.B.4 · maths-pdf.fr/en/

Use this key to score the GCF and LCM test out of 20 points. Each solution is fully worked, and the scoring line explains how to award each point and partial credit.

Grade 6 · Common Core State Standards: **6.NS.B.4**

Question 1 - Factors [2 pts]

1, 2, 4, 5, 8, 10, 20, 40.

Scoring: 2 points for all eight; 1 point if one factor is missing or extra.

Question 2 - GCF [2 pts]

Factors of 36: 1, 2, 3, 4, 6, 9, 12, 18, 36.

Factors of 54: 1, 2, 3, 6, 9, 18, 27, 54.

Common factors: 1, 2, 3, 6, 9, 18. The greatest is 18.

18

Scoring: 1 point for the lists or prime factors; 1 point for 18.

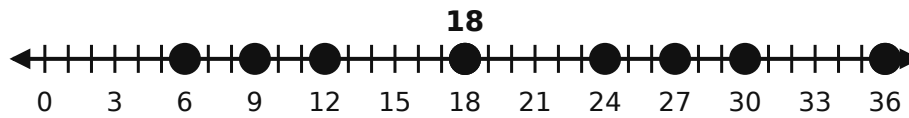
Question 3 - LCM [2 pts]

Multiples of 6: 6, 12, 18, 24.

Multiples of 9: 9, 18, 27.

The first multiple on both lists is 18.

18

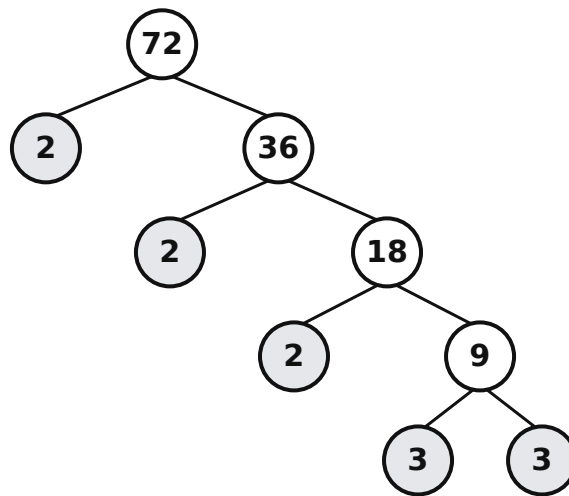


The first common multiple is 18.

Scoring: 1 point for listing multiples; 1 point for 18.

Question 4 - Prime factorization [2 pts]

$$72 = 2 \times 2 \times 2 \times 3 \times 3 = 2^3 \times 3^2.$$



Prime factors: 2, 2, 2, 3, 3.

Scoring: 1 point for the prime factors; 1 point for exponent form.

Question 5 - Distributive property [2 pts]

GCF of 54 and 81 is 27.

$$54 + 81 = 27(2 + 3).$$

Scoring: 1 point for the GCF; 1 point for the expression.

Question 6 - Schedules [2 pts]

LCM of 12 and 18 is 36.

They flash together after 36 seconds.

Scoring: 1 point for the method; 1 point for 36 seconds.

Question 7 - Sharing equally [2 pts]

GCF of 48 and 60 is 12.

He can make 12 bracelets.

Scoring: 1 point for the GCF method; 1 point for 12.

Question 8 - Fruit trays [3 pts]

GCF of 56 and 42 is 14, so 14 trays.

Each tray has $56 \div 14 = 4$ apples and $42 \div 14 = 3$ oranges.

$56 + 42 = 14(4 + 3)$.

Scoring: 1 point for 14 trays; 1 point for the fruit per tray; 1 point for the expression.

Question 9 - Two schedules [3 pts]

LCM of 3, 4, and 6: multiples of 6 are 6, 12; 12 is a multiple of 3 and 4.

The LCM is 12.

She does all three again in 12 days.

Scoring: 1 point for the multiples or prime factors; 1 point for the LCM; 1 point for the conclusion.

Total
20 points